

## CLAIMS

I claim:

1. A method of discriminating voice, data, and facsimile calls communicated through a voice-over-packet network, comprising the steps of:

identifying the existence of an answer signal (ANS) or a modified answer signal (ANSam) communicated between an answering modem and an originating modem over said packet network.

2. The method of claim 1, further comprising the steps of:

generating an ANS tone according to the protocols of said originating modem, using an originating-side gateway, when said existence of said ANS signal is identified by said answering-side gateway;

generating an ANSam tone according to the protocols of said originating modem, using said originating-side gateway, when said existence of said ANSam signal is identified by said answering-side gateway.

3. The method of claim 2, further comprising the steps of:

enabling a V.8 call menu signal (CM) detector after said existence of either of said ANS or ANSam signals is identified by said originating gateway;

transitioning said originating gateway from a voice mode of operation to a G.711 pass-through mode of operation after said existence of either of said ANS or ANSam signals is identified by said originating gateway;

detecting a V.8 CM signal transmitted by the originating gateway at the originating gateway and suppressing its transmission into the packet network;

identifying the CM call function as either

(a) facsimile and modifying channel processing to either FoIP processing mode of operation or remain in G.711 pass-through mode of operation or

(b) data modem and modifying channel processing to MoIP processing mode of operation.

4. The method of claim 3, further comprising the steps of:  
identifying the termination of the communication of said ANS or said ANSam signal;  
terminating said generation of said ANS or said ANSam tone when said termination of the communication of said ANS or said ANSam signal is identified; and  
disabling said CM detector when said termination of the communication of said ANS or said ANSam signal is identified.

5. The method of claim 4, further comprising the step of:  
after executing the steps of claim 4, transitioning said originating gateway to a facsimile relay processing mode of operation when a facsimile relay indication is received from said answering modem over said packet network.

6. A method of discriminating voice, data, and facsimile calls communicated through a voice-over-packet network, comprising the steps of:  
identifying any one of an answer signal (ANS), a modified answer signal (ANSam), a V.8bis CRe tone, or V.21 flags communicated between an answering modem and an originating modem, using an answering-side gateway that is capable of identifying each of said ANS signal, said ANSam signal, said V.8bis CRe tone, and said V.21 flags; and  
with said answering-side gateway, converting said identified ANS signal, ANSam signal, V.8bis CRe tone, or V.21 flags to a format that may be conveyed over said packet network to said originating modem via an originating-side gateway.

7. The method of claim 6, further comprising the steps of:  
suppressing a voice path to said packet network, using said answering gateway, when said V.8bis CRe tone is identified;  
determining when said V.8bis CRe tone communication between said answering modem and said originating modem terminates.

8. The method of claim 7, further comprising the step of:  
re-establishing said voice path when said V.8bis CRe tone terminates.
9. The method of claim 7, further comprising the steps of:  
suppressing said voice path to said packet network, using said answering gateway, when  
said ANS signal or said ANSam signal is detected; and  
transitioning said answering gateway to a G.711 pass-through mode of operation when  
said ANS signal or said ANSam signal is detected.
10. The method of claim 9, further comprising the steps of:  
transitioning said answering gateway to an LLMR processing mode of operation when  
said LLMR indication is received from the originating-side gateway; and  
transitioning said answering gateway to a V.34 facsimile processing mode of operation  
when said V.34 facsimile relay indication is received from the originating-side gateway.
11. The method of claim 10, further comprising the step of:  
re-establishing said voice path to said packet network, using said answering gateway,  
when a termination of the communication of either of said ANS or ANSam signals occurs.
12. The method of claim 11, further comprising the step of:  
after executing the steps of claim 11, transitioning said answering gateway to a facsimile  
relay processing mode of operation when said V.21 flags are identified.